

Impact of COVID-19 on Women in Engineering and Technology

Survey Report



July 2020

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The COVID-19 pandemic has introduced an historic level of uncertainty in our everyday lives. It is unclear what the impact will be on diversity in the engineering and technology sectors.

The Society of Women Engineers conducted a survey of its members to examine how the pandemic has affected their personal and professional lives. Responses were collected between June 3, 2020 and June 15, 2020. While the survey was open to any member over 18 years of age, this report focuses on the responses received from women and queer/non-binary people who made up 98% of our respondents.

Of the 1,791 responses received, 30% were enrolled in college courses and 73% of those students were undergraduates. Of the 1,360 working professionals, the top disciplines represented were mechanical, aerospace, and electrical engineering, respectively, representing 36% of respondents. Across the sample, 25% of respondents were people of color.

SWE is a global organization. While U.S. respondents comprised 95% of our sample, we received responses from over 20 other countries, including India, Canada, and Mexico.

Pre-COVID, I was in a department with several women, the highest percentage of women of any of the engineering departments. I am now the sole female survivor of RIFs.

- White Woman,
Aerospace engineer



We learn more each day about the disproportionate impact the pandemic is having on those who are underrepresented or marginalized, and the engineering sector is not immune to potential rollbacks of our diversity and inclusion progress.

Employers must remain diligent in monitoring and mitigating the impact of their decisions on gender equity during this time.

- Ensure that employees have the resources they need to effectively work remotely, including required technology and access to virtual trainings and professional development.
- Provide resources to encourage work-life balance. For example, working parents may find a program subscription to entertain children useful, while others may value employer-sponsored mental health services and support.
- Establish regular check-ins with employees so they feel connected to their organization. Managers and team leaders should encourage the voices of all team members to be heard during virtual meetings.
- Allow for flexible schedules. Many engineers are trying to balance work with housework, childcare, and elder care responsibilities.
- Maintain due diligence to mitigate bias in hiring and promotion decisions. With most of these processes now occurring virtually, these decisions can be easily influenced by such biases.

Supporting students is vital to ensuring that we continue to increase diversity of the engineering profession.

- Communication during this uncertain time is key. Students need to know what to expect so they can plan accordingly, with regards to fall classes as well as employment opportunities.
- Virtual job fairs can help provide access to employers in lieu of on campus recruitment and career fairs.

My direct supervisor has cancelled all of our biweekly one-on-one meetings and my second level manager has postponed our twice-per-quarter one-on-one meetings....I feel like I've been isolated more being at home and feel disconnected from the workplace.

- White Woman, Quality Engineer

Summer Internships

32% of students who received a summer job offer had the offer rescinded or postponed.

Graduation Progress

48% of students are concerned that the pandemic will delay their college graduation date.

Employment Offers

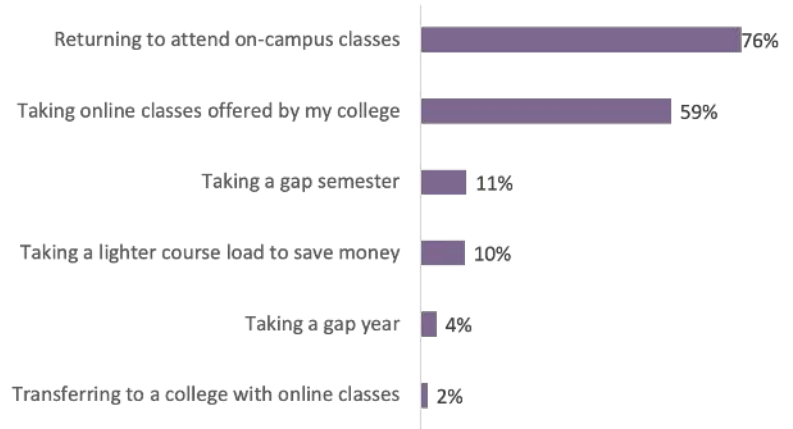
24% of students who graduated in Spring 2020 had their job offers rescinded or postponed.

For visual learners, and those that benefit from learning face to face...switching to online classes impeded the ability to learn.

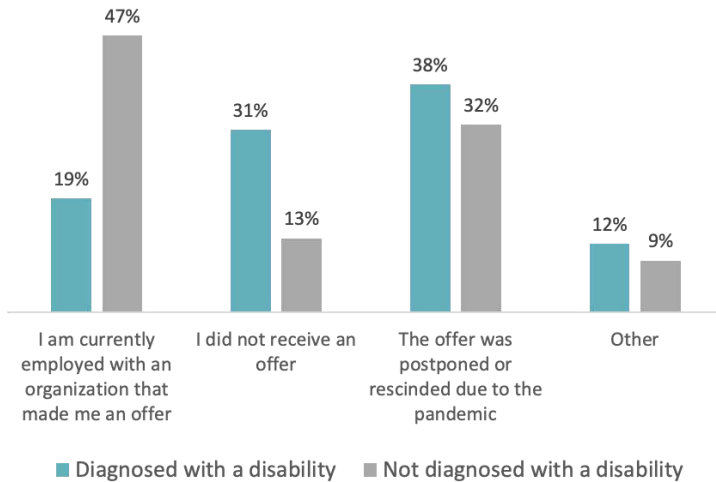
- Hispanic Woman, Undergraduate Student

Intentions for Fall 2020

According to student responses, colleges and universities may be moving towards providing a hybrid learning environment, combining in-person and online classes for Fall 2020. For fall, 76% of students reported that they plan to return to college to attend on-campus classes, and 59% reported that they plan to take online classes. However, approximately 11% and 10% are considering taking a gap semester and taking a lighter course load to save money, respectively.



NOTE: Multiple responses permitted.



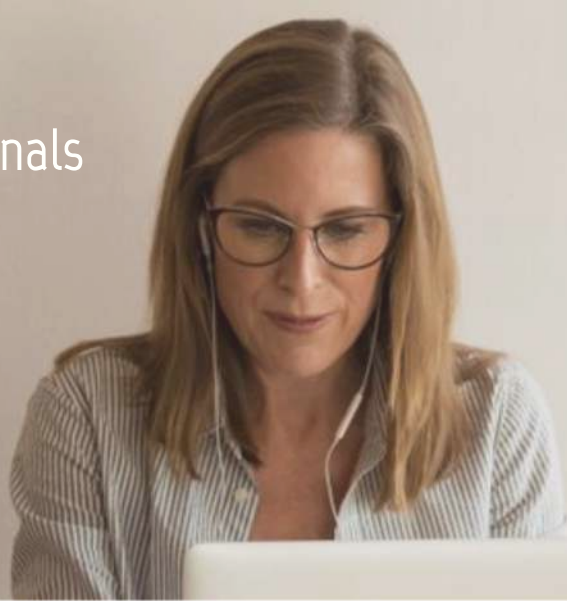
Impact on Students with Disabilities

Almost 10% of students in our sample reported having a disability impairment. A higher percentage of students with a disability reported not receiving a summer job offer or having an offer postponed or rescinded compared to students without a disability.

Concerns about Delayed Graduation

While many students are concerned about the impact of COVID-19 on their progress towards graduation, students of color expressed more concern about a delay to their graduation date compared to white students.





Essential Workers

58% are considered essential workers, and 44% have been required to physically report to their place of work during the pandemic.

Employment Concerns

37% are concerned about losing their job within the next 6 months.

Bias During Virtual Meetings

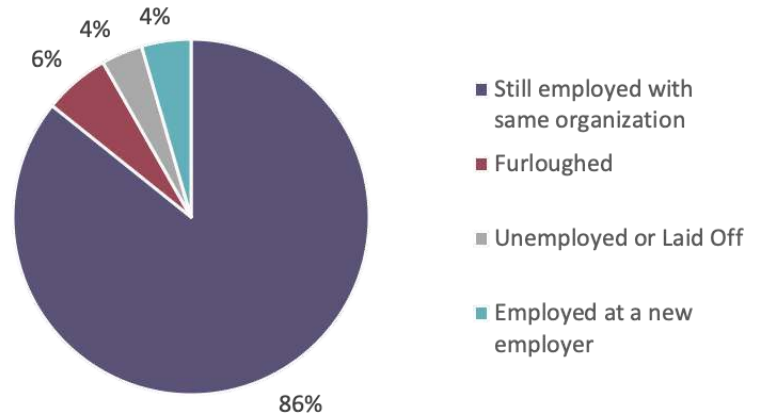
31% report getting talked over, interrupted, or ignored more frequently during virtual meetings than those held in person.

Because the interviewing is being done virtually, the hiring lacks diversity and they all know each other from other large corporations....This is a huge step back for D&I.

- White Woman, Engineering Manager

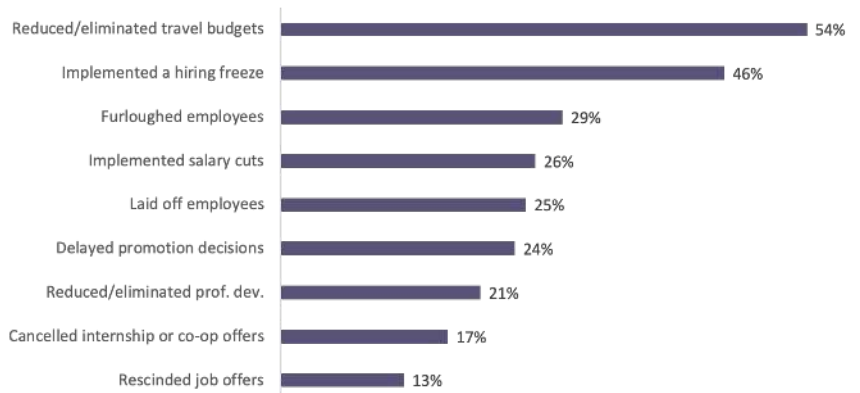
Impact on Employment Status

Most of the respondents working in engineering or technology professions indicated that they were currently employed. However, if they were to lose their job in the next six months, 70% are concerned about their ability to find another job.



Employer Response to COVID-19

Employer responses to address the budgetary impacts of COVID-19 ranged from cutting travel budgets to rescinding job offers. While some employers have implemented salary cuts, a number of respondents also indicated that employers have eliminated planned bonuses and annual salary increases. Because of COVID-19, 75% reported that their employer has re-assessed its policies regarding remote work.



NOTE: Multiple responses permitted.

Employer Communications

✓ 76% approve or highly approve of how their employer has responded to the COVID-19 pandemic, though engineers working at smaller organizations expressed more dissatisfaction with employer response.

i 93% feel that their employer has provided adequate communications regarding how the organization is addressing COVID-19 concerns for its employees.

📄 75% reported that their employer has re-assessed its policies regarding remote work because of COVID-19.





High Levels of Dissatisfaction

Dissatisfaction with work-family balance was highest among 18-24 year olds (44%) and 35-44 year olds (42%).

Satisfaction Varies by Sector

52% of respondents working in academia and 42% of respondents working in the military reported dissatisfaction with their work-family balance - much higher than those in other sectors.

School-Life Balance

66% of students who are very concerned about COVID-19 delaying their graduation date are having difficulty with school-life balance.

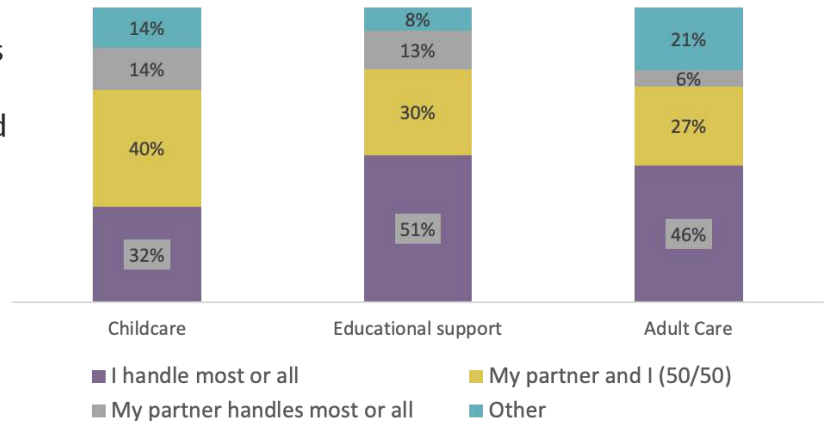
I am not the primary caregiver for my parents or my partner's surviving parent, but now the grocery shopping, picking up medication, and other various errands/chores are my responsibility.

- Mixed Race Woman, Manufacturing Engineer

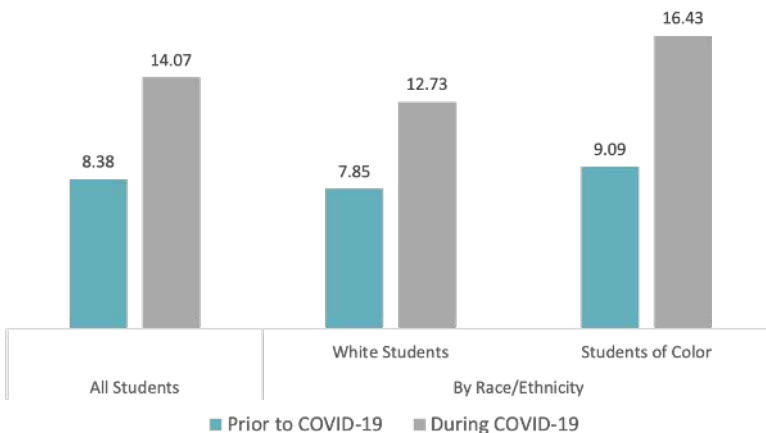
Heavier Family Responsibilities Load

Women and queer/non-binary respondents in the workforce reported that, while childcare responsibilities were often shared equally with their partners, respondents were more often tasked with educational support for their children and caring for adult dependents during COVID-19. Overall, 68% reported satisfaction with work-life balance.

Share of Family Responsibilities



Hours per Week Spent on Household Chores



Students of Color are Disproportionately Affected

College students reported that, on average, the hours per week spent on household chores prior to versus during the pandemic increased significantly. However, students of color spent more time doing household chores than their white peers prior to COVID-19 and during COVID-19.

Impact on Opportunities for Working Engineers

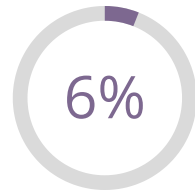
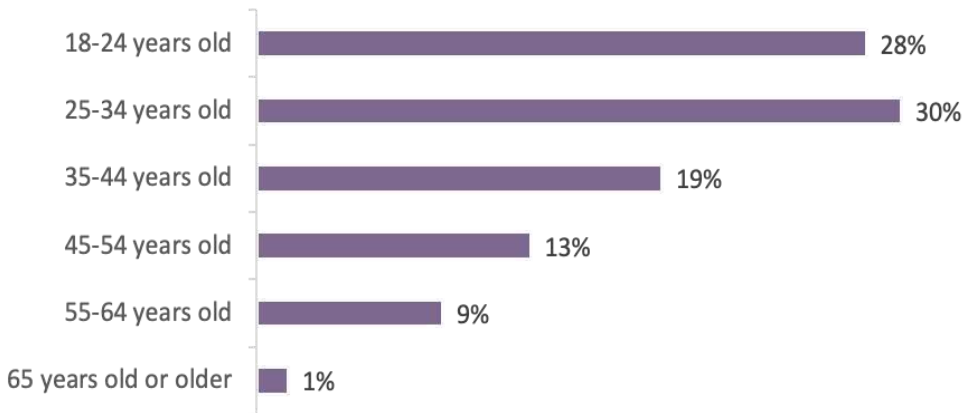
More than half of respondents in the workforce report that COVID-19 has negatively impacted their personal opportunities and interpersonal relationships with professional colleagues.

- 53%** Personal opportunities
- 43%** Professional opportunities
- 55%** Interpersonal relationships with professional colleagues
- 36%** Interpersonal relationships with managers or supervisors

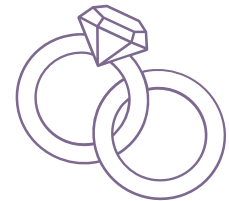


We received 1,791 responses. The survey was open to all genders: 2% of respondents were men and 1% were gender queer/non-binary or other. This report focuses on responses from women and gender queer/non-binary.

Age

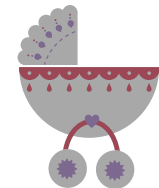
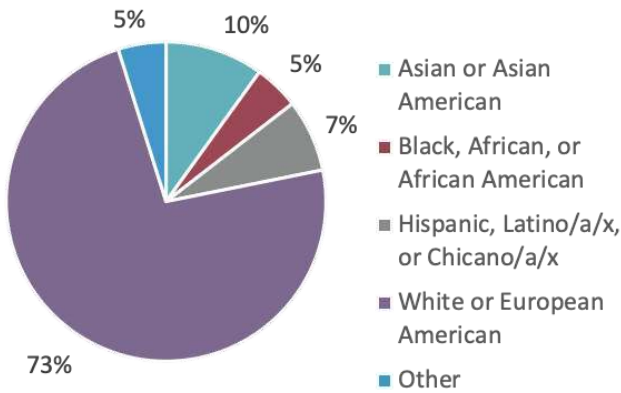


Have a Disability Impairment



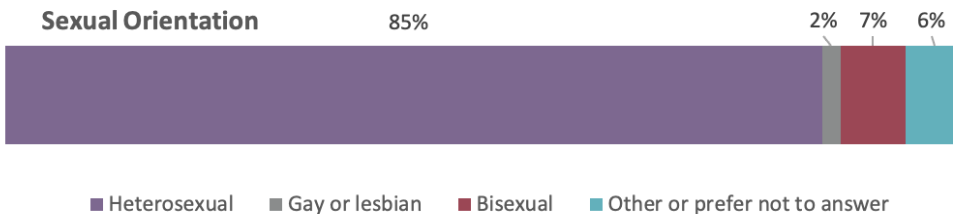
55% Married or Living with Partner

Race/Ethnicity of U.S. Respondents



28% Have Children

Sexual Orientation



7% Have Adult Dependents

The Society of Women Engineers surveyed its membership to gain an understanding of the impact of COVID-19 on their professional and personal lives. SWE developed a survey in Qualtrics for online data collection. The survey link was shared with SWE members around the globe through an email invitation to participate. Engineers and students over the age of 18 were eligible for inclusion in the study. The majority of respondents were from the United States, with 5% based outside of the U.S. Responses were collected from SWE member over 18 years of age, including 27 men, but this report focuses on the responses received from over 1,700 women and queer/non-binary respondents.

Chi-square tests were conducted to better understand whether there was a relationship between certain variables. Results of these tests are included with the descriptive statistics, as appropriate.

About

The Society of Women Engineers (SWE) is the world's largest advocate and catalyst for change for women in engineering and technology. The not-for-profit educational and service organization is the driving force that establishes engineering as a highly desirable career aspiration for women. As a champion of diversity, SWE empowers women to succeed and advance in their personal and professional lives. For more information about SWE, please visit www.swe.org.

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